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| EXAMINER | |
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| SCHWARTZ, JOSHUA L | |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/630,971 | LENZINI ET AL. | |
| | Examiner | Art Unit | |
| | JOSHUA SCHWARTZ | 2617 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *02 December 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *17,18,24,25,56,58-62,64-68 and 70-73* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *17,18,24,25,56,58-62,64-68 and 70-73* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### Status of Application

1. This is a Final Office Action on the Merits. Claims 17, 18, 24, 25, 56, 58-62, 64-68, and 70-73 are present for examination at this time. This action follows a Non-Final Office Action issued 8/17/2010 after a Request for Continued Examination (RCE).

2. Claims 17, 18, 24, 25, 56, 58-62, 64-68, and 70-73 are rejected.

3. Claims 74 and 75 have been cancelled since the last office action of 3/1/2010

4. Claims 17, 24, 25, 56, 61, 64, and 66 stand amended

5. Individual comments relating to the claim amendments in the grounds for rejection section are in italics.

### Response to Arguments

Examiner has read Applicants' arguments and found them to be unpersuasive. Examiner rejects Applicants' arguments that Choi which discloses a collision avoidance technique is not an avoiding means. Applicants' arguments as to what is to be avoided through the avoidance technique reads more like an intended purpose and does not take the claims outside of the cited references which remain good art. Even assuming en arguendo that under the cited references a mismatch is avoided, but the system/method is clueless as to why, this does not change whether or not the collision or mismatch is avoided. The claims as written do not require any semblance of awareness by the system as to what has been avoided. The same holds true for Applicants' arguments against Quayle with regard to Quayle's alleged lack of knowledge of what is being avoided.

### Claim Rejections

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject

matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 17-18, 24-25, 56, 58-62, 64-68, and 70-73 are rejected under 35 U.S.C. 103(a) as being unpatentable over IEEE Std 802.16-2001, in view of Choi (U.S.Pat-6272117), in view of Background of the invention, in view of "Communications Network" by Quayle, US 6317234B1 and further in view of "Dynamic queue depth management in a satellite terminal for bandwidth allocations in a broadband satellite communications system", by Walsh and Schweinhart, US20030032427 ("Walsh") and further in view of "Method and system for adaptively obtaining bandwidth allocation requests" by Spinar and Stanwood US 20020080816 A1 ("Spinar")

**Regarding claims 17 and 61 (Amended)**, IEEE teaches an apparatus/a method, comprising:

granting means for granting a transmission subscriber station (pg.83, section 6.2.5);1

transmitting means for transmitting grant messages to at least one subscriber station (pg.86, section 6.2.6.1)

IEEE fails to specifically disclose monitoring means for monitoring capacity request message from the at least one subscriber station, grant messages sent by a base station and data transmission received from the at least one subscriber stations; avoiding means for avoiding mismatch between a granted and data received from a subscriber station due to a collision preventing receipt at the base station of the initial transmission of the previous capacity request ~~using information based on request messages, grant messages and received transmissions~~

However, Choi teaches monitoring means for monitoring capacity request message from the at least one subscriber station (co1.3, lines 36-44 (one or more mobile data terminals to transmit a request for access to the communication channel upon receiving the message from the base station)), grant messages sent by a base station (co1.3, lines 36-44 (granting the request for access to the communication channel to the requesting mobile wireless data terminal) and data transmission received from the at least one subscriber stations (abstract (co1.3, lines 36- 51

(previous message received from the mobile wireless terminal)); avoiding means for avoiding mismatch between a granted and data received from a subscriber station using information based on capacity request messages (col.3, lines 36-51 (the indication of channel availability can be piggy-backed onto an acknowledgment message sent by the base station in response to a previous message received from the mobile wireless data terminal)), grant messages and received transmissions (col.3, lines 36- 51).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the teaching of Choi to IEEE to avoids collision of packet (reduce the channel utilization rate).

Furthermore, IEEE and Choi fail to disclose a capacity grant to subscriber station-specific. However, Background of the invention teaches a capacity grant to subscriber station-specific ([0005]). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the teaching of Background of the invention to IEEE and Choi to allocate capacity for each mobile wireless terminals connection.

Furthermore IEEE and Choi fail to explicitly state monitoring capacity requests wherein at least one of the capacity request messages comprise [sic] information based on previous capacity requests of the at least one subscriber station; However the preceding limitation is known in the art of communications.

"Communications Network" by Quayle, US 6317234B1. Quayle at Col 8, lines 18-30 discloses where the capacity requests factor in not only the latest buffer fullness, but also information related to previous capacity requests, where information from the earlier "reset cycles" where capacity requests were made, are factored into the new capacity request. (an explanation of the relationship between the capacity request and its part of the reset cycle is further explained at Col 3 lines 20-24)

It would have been obvious to one of ordinary skill in the art who would want to take the teachings of Choi and IEEE who would want to improve the efficiency of those networks to account for sudden surges in network traffic to combine the teachings of Quayle with that of Choi and IEEE.

IEEE also fails to explicitly state that the granting is to a "specific" subscriber station. However the preceding limitation is known in the art of communications. Walsh at ¶36 ll. 17-20 discloses where an individual, i.e. specific, satellite terminal requests and is granted its own capacity.

It would have been obvious to one of ordinary skill in the art, a communications engineer, who would want to maximize bandwidth efficiency to tailor capacity to the needs of individual stations rather than provide that bandwidth level to every station, especially when that level of capacity is not needed by those stations, and combine IEEE in view of Choi, in view of Quayle with Walsh.

*With regard to the amended claim element that there is a means to "*avoid a mismatch between a granted capacity and data received from [[a]] the subscriber station due to a collision preventing receipt at the base station of the initial transmission of the previous capacity request" the cited references disclose avoiding the mismatch. With regards to what caused the mismatch this reads like an intended use, which is unpatentable under MPEP section 2106.

Furthermore this element is disclosed by Spinar at ¶67 where various polling methods are used for bandwidth allocation requests. Spinar recommends mixing and matching the listed techniques listed therein (e.g. individual polling, and group polling) to account for, i.e. avoid, mistakes from collisions that prevent receipt of the bandwidth requests at the base station. See Spinar ¶3 where it is stated that the requests go to base stations. Note that the purpose of a bandwidth allocation request is to change the currently granted bandwidth to account for new data traffic to be transmitted and/or received.

As stated at the end of Spinar ¶67 it would be advantageous to combine those collision avoidance techniques with a bandwidth allocation request system in order to maximize QoS efficiency. Therefore it would have been advantageous to one of ordinary skill in the art who would want to maximize the efficiency of the QoS and bandwidth techniques of Walsh to combine IEEE in view of Choi in view of Quayle with Walsh.

**Regarding claim 18**, IEEE, Choi, and Background of the invention further teach the base station of claim 17, wherein the base station is configured to monitor data based on messages and transmissions using a memory table (see IEEE, table 58, pg.85, section 6.2.5-6.2.5.4).

wherein the at least one of the capacity request messages comprises an information message sent from the at least one subscriber station to a base station (IEEE teaches a base station receiving the request and Walsh teaches that the terminal that makes the request from the satellite, ¶34 ll. 5-6)
, wherein the at least one subscriber station provides connectivity among user terminals and the base station (Walsh at ¶30 ll. 2-5 where the terminals provide mesh connectivity to each other and the Satellite)

**Regarding claim 64**, IEEE teaches an apparatus/a computer program embodied on a computer-readable medium, comprising:
first transmitting means for transmitting capacity request messages of at least one connection (pg.86, section 6.2.6.1);
receiving means for receiving capacity grant messages from a base station (pg.83, section 6.2.5);

IEEE fails to specifically disclose allocating means for allocating connection granted by a base station; second transmitting means for transmitting messages, wherein the messages comprise information based on previous capacity request messages of a subscriber station; and third transmitting means for transmitting data according to a capacity allocation made by the subscriber station.
However, Choi teaches allocating means for allocating connection granted by a base station (col.3, lines 31-51 (sending a message from the base station in a first set of time slots indicating whether the communication channel is available)); second transmitting means for transmitting messages (col.3, lines 36-51), wherein the messages comprise information based on previous capacity requests of a subscriber station (co1.3, lines 36-51 (previous message received from the mobile wireless terminal)); and third transmitting means for transmitting data according to a capacity allocation made by the subscriber station (co1.8, lines 21-26 (the base station grants the

uplink message channel to the requesting wireless data terminal by designating a requesting wireless data terminal in an ACK control packet corresponding to the data packet received by the base station)

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the teaching of Choi to IEEE to avoids collision of packet (reduce the channel utilization rate).

Furthermore, IEEE and Choi fail to disclose connection-specific a capacity granted.

However, Background of the invention teaches connection-specific a capacity granted ([0005]).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the teaching of Background of the invention to IEEE and Choi to allocate capacity for each mobile wireless terminals connection.

With regard to the claim element "the capacity grant messages monitors by the base station", it is understood that a base station has to monitor the message to process it. Also see Walsh at ¶34 ll. 5-7 where the message is sent to a network controller as well as the monitoring satellite station.)

With regard to the amended claim element that "the information...is transmitted to avoid a mismatch caused by a collision preventing receipt of the initial transmission of the previous capacity request message" the cited references disclose avoiding the mismatch. With regards to what caused the mismatch this reads like an intended use, which is unpatentable under MPEP section 2106. The avoiding mismatch element has been addressed with regard to Claim 17 above and is covered by the Choi reference at (co1.3, lines 36-51 where the indication of channel availability can be piggy-backed onto an acknowledgment message sent by the base station in response to a previous message received from the mobile wireless data terminal).

Furthermore this element is disclosed by Spinar at ¶67 where various polling methods are used for bandwidth allocation requests. Spinar recommends mixing and matching the listed techniques listed therein (e.g. individual polling, and group polling) to account for, i.e. avoid,

mistakes from collisions that prevent receipt of the bandwidth requests at the base station. See Spinar ¶3 where it is stated that the requests go to base stations. Note that the purpose of a bandwidth allocation request is to change the currently granted bandwidth to account for new data traffic to be transmitted and/or received.

As stated at the end of Spinar ¶67 it would be advantageous to combine those collision avoidance techniques with a bandwidth allocation request system in order to maximize QoS efficiency. Therefore it would have been advantageous to one of ordinary skill in the art who would want to maximize the efficiency of the QoS and bandwidth techniques of Walsh to combine IEEE in view of Choi in view of Quayle with Walsh.

**Regarding claims 24 and 66** (Amended), IEEE teaches an apparatus/a computer program embodied on a non-transitory computer-readable medium, comprising:
a receiver configured to receive capacity request messages from at least one subscriber station (pg.86, section 6.2.6.1); and a processor configured to, grant a transmission capacity subscriber station (pg.83, section 6.2.5), transmit grant messages to the at least one subscriber station (pg.86, section 6.2.6.1); and IEEE fails to specifically disclose monitoring request messages received from the at least one subscriber stations, grant messages sent by a base station and data transmissions received from the at least one subscriber station; wherein the processor is further configured to avoid a mismatch between a granted and data received from a subscriber station using information based on request messages, grant messages and received transmissions.

However, Choi teaches monitoring request messages received from the at least one subscriber stations (co1.3, lines 36-44 (one or more mobile data terminals to transmit a request for access to the communication channel upon receiving the message from the base station)), grant messages sent by a base station (co1.3, lines 36-44 (granting the request for access to the communication channel to the requesting mobile wireless data terminal) and data transmissions received from the at least one subscriber station (abstract (co1.3, lines 36-51 (previous message received from the mobile wireless terminal)); wherein the processor (base station include processor) is further configured to avoid a mismatch between a granted and data received from a subscriber station using information based on request messages (Col .3, lines 36-51 (the

indication of channel availability can be piggy-backed onto an acknowledgment message sent by the base station in response to a previous message received from the mobile wireless data terminal)), grant messages and received transmissions (col.3, lines 36-51).
Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the teaching of Choi to IEEE to avoids collision of packet (reduce the channel utilization rate).

Furthermore, IEEE and Choi fail to disclose a capacity grant to subscriber station-specific. However, Background of the invention teaches a capacity grant to subscriber station-specific ([0005]).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the teaching of Background of the invention to IEEE and Choi to allocate capacity for each mobile wireless terminals connection.

Furthermore IEEE and Choi fail to explicitly state monitoring capacity requests wherein at least one of the capacity request messages comprise [sic] information based on previous capacity requests of the at least one subscriber station; However the preceding limitation is known in the art of communications.

"Communications Network" by Quayle, US 6317234B1. Quayle at Col 8, lines 18-30 discloses where the capacity requests factor in not only the latest buffer fullness, but also information related to previous capacity requests, where information from the earlier "reset cycles" where capacity requests were made, are factored into the new capacity request. (an explanation of the relationship between the capacity request and its part of the reset cycle is further explained at Col 3 lines 20-24)

It would have been obvious to one of ordinary skill in the art who would want to take the teachings of Choi and IEEE who would want to improve the efficiency of those networks to account for sudden surges in network traffic to combine the teachings of Quayle with that of Choi and IEEE.

The addition of the claim element "to a specific subscriber" was addressed above with regard to Claim 1.

*Claim 66's amended element of avoiding a mismatch "*due to a collision preventing receipt of the initial transmission of the previous capacity request*" has the same intended use* problem as discussed with regards to claims 17 and 64 above.

Furthermore this element is disclosed by Spinar at ¶67 where various polling methods are used for bandwidth allocation requests. Spinar recommends mixing and matching the listed techniques listed therein (e.g. individual polling, and group polling) to account for, i.e. avoid, mistakes from collisions that prevent receipt of the bandwidth requests at the base station. See Spinar ¶3 where it is stated that the requests go to base stations. Note that the purpose of a bandwidth allocation request is to change the currently granted bandwidth to account for new data traffic to be transmitted and/or received.

As stated at the end of Spinar ¶67 it would be advantageous to combine those collision avoidance techniques with a bandwidth allocation request system in order to maximize QoS efficiency. Therefore it would have been advantageous to one of ordinary skill in the art who would want to maximize the efficiency of the QoS and bandwidth techniques of Walsh to combine IEEE in view of Choi in view of Quayle with Walsh.

**Regarding claim 25** (Previously Presented), IEEE teaches an apparatus comprising: a transmitter configured to transmit capacity request messages of at least one connection (pg.86, section 6.2.6.1); and a processor configured to, IEEE fails to specifically disclose allocate connection-specific a capacity granted by a base station; transmit message wherein the message comprise information on previous capacity request; and transmit data from a subscriber station according to a capacity allocation made by the subscriber station.
IEEE fails to specifically disclose allocate connection granted by a base station; transmit message wherein the message comprise information on previous capacity request; and transmit data from a subscriber station according to a capacity allocation made by the subscriber station.

However, Choi teaches allocate connection a granted by a base station (sending a message from the base station in a first set of time slots indicating whether the communication

channel is available)); transmit message wherein the message comprise information on previous capacity request (col.3, lines 36-51 (previous message received from the mobile wireless terminal)); and transmit data from a subscriber station according to a capacity allocation made by the subscriber station (co1.8, lines 21-26 (the base station grants the uplink message channel to the requesting wireless data terminal by designating a requesting wireless data terminal in an ACK control packet corresponding to the data packet received by the base station)).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the teaching of Choi to IEEE to avoids collision of packet (reduce the channel utilization rate).
Furthermore, IEEE and Choi fail to disclose connection-specific a capacity granted by a base station.

However, Background of the invention connection-specific a capacity granted by a base station ([0005]). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the teaching of Background of the invention to IEEE and Choi to allocate capacity for each mobile wireless terminals connection.

*Claim 25's amended element of transmitting the information to avoid a mismatch due to "*caused by a collision preventing receipt of the initial transmission of the previous capacity request message.*" This has the same intended use problem as discussed* with regards to claims 17, 64, 24 and 66 above.

Furthermore this element is disclosed by Spinar at ¶67 where various polling methods are used for bandwidth allocation requests. Spinar recommends mixing and matching the listed techniques listed therein (e.g. individual polling, and group polling) to account for, i.e. avoid, mistakes from collisions that prevent receipt of the bandwidth requests at the base station. See Spinar ¶3 where it is stated that the requests go to base stations. Note that the purpose of a bandwidth allocation request is to change the currently granted bandwidth to account for new data traffic to be transmitted and/or received.

As stated at the end of Spinar ¶67 it would be advantageous to combine those collision avoidance techniques with a bandwidth allocation request system in order to maximize QoS

efficiency. Therefore it would have been advantageous to one of ordinary skill in the art who would want to maximize the efficiency of the QoS and bandwidth techniques of Walsh to combine IEEE in view of Choi in view of Quayle with Walsh.

**Regarding claim 56** (Amended),, IEEE teaches a method, comprising: transmitting capacity request messages of at least one connection (pg.86, section 6.2.6.1);
receiving grant messages from a base station (pg.83, section 6.2.5);
IEEE fails to specifically disclose transmitting messages, wherein the messages comprise information based on previous capacity requests of a subscriber station; and for transmitting data according to a capacity allocation made by the subscriber station.

However, Choi teaches transmitting messages (col.3, lines 36-51), wherein the messages comprise information based on previous capacity requests of a subscriber station (col.3, lines 36-51 (previous message received from the mobile wireless terminal)); and for transmitting data according to a capacity allocation made by the subscriber station (co1.8, lines 21-26 (the base station grants the uplink message channel to the requesting wireless data terminal by designating a requesting wireless data terminal in an ACK control packet corresponding to the data packet received by the base station))

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the teaching of Choi to IEEE to avoids collision of packet (reduce the channel utilization rate).

Furthermore, IEEE and Choi fail to disclose connection-specifically allocating a capacity granted by the base station.

However, Background of the invention teaches connection-specifically allocating a capacity granted by the base station ([0005]).
Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the teaching of Background of the invention to IEEE and Choi to allocate capacity for each mobile wireless terminals connection.

With regard to the claim element "the capacity grant messages monitors by the base station", it is understood that a base station has to monitor the message to process it. Also see Walsh at ¶34 ll. 5-7 where the message is sent to a network controller as well as the monitoring satellite station.)

**Regarding claim 58** (Previously Presented), IEEE, Choi, and Background further teach the method of claim 56, wherein the transmitting comprises transmitting an update message that replaces at the base station a previous information connection- specifically (see IEEE, pg.86 (when the BS receives an incremental Bandwidth Request, it shall add the quantity of bandwidth requested to its current perception of the bandwidth needs of the connection. When the BS receives an aggregate Bandwidth Request, it shall replace its perception of the bandwidth needs of the connection with the quantity of bandwidth requested)).

**Regarding claim 59** (Previously Presented), IEEE, Choi, and Background further teach the method of claim 56, wherein the transmitting comprises transmitting an update message that replaces information based on a need for bandwidth for a connection (see IEEE, pg.86 (when the BS receives an incremental Bandwidth Request, it shall add the quantity of bandwidth requested to its current perception of the bandwidth needs of the connection. When the BS receives an aggregate Bandwidth Request, it shall replace its perception of the bandwidth needs of the connection with the quantity of bandwidth requested)).

**Regarding claim 60** (Previously Presented), IEEE, Choi, and Background further teach the method of claim 56, further comprising: transmitting update messages comprising information based on previous capacity requests, wherein the update messages replace at the base station previous information on a connection (see IEEE, pg.86 (when the BS receives an incremental Bandwidth Request, it shall add the quantity of bandwidth requested to its current perception of the bandwidth needs of the connection. When the BS receives an aggregate Bandwidth Request, it shall replace its perception of the bandwidth needs of the connection with the quantity of bandwidth requested)).

**Regarding claim 62** (Previously Presented), IEEE, Choi, and Background further teach the method of claim 61, further comprising: monitoring data based on messages and transmissions using a memory table (see IEEE, table 58, pg.85, section 6.2.5-6.2.5.4).

**Regarding claim 65** (Previously Presented), is rejected with the same reasons set forth in claim 60.

**Regarding claim 67** (Previously Presented), IEEE, Choi, and Background further teach the computer program of claim 66, further comprising: receiving update messages comprising information based on previous capacity requests, wherein the update messages replace previous information on a connection (see IEEE, pg.86 (when the BS receives an incremental Bandwidth Request, it shall add the quantity of bandwidth requested to its current perception of the bandwidth needs of the connection. When the BS receives an aggregate Bandwidth Request, it shall replace its perception of the bandwidth needs of the connection with the quantity of bandwidth requested).

**Regarding claim 68** (Previously Presented), this claim is rejected with the same reasons set forth in claim 62.

**Regarding claim 70** (Previously Presented), this claim is rejected with the same reasons set forth in claims 60 and 17.

**Regarding claim 71** (Previously Presented), this claim is rejected with the same reasons set forth in claims 60 and 17.

**Regarding claim 72** (Previously Presented), this claim is rejected with the same reasons set forth in claim63.

**Regarding claim 73** (Previously Presented), this claim is rejected with the same reasons set forth in claim 60.

**Regarding Claim 74** (Cancelled)

**Regarding Claim 75** (Cancelled)

**Conclusion**

7. Applicant's amendment necessitated the ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSHUA SCHWARTZ whose telephone number is (571)270-7494. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dwayne Bost can be reached on 571-272-7023. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/PIERRE-LOUIS DESIR/
Primary Examiner, Art Unit 2617

/JOSHUA SCHWARTZ/
Examiner, Art Unit 2617